Commonwealth of Massachusetts
Office of Consumer Affairs & Business Regulation
Division of Energy Resources

RENEWABLE ENERGY PORTFOLIO STANDARD ADVISORY RULING

FOR

GENPOWER LLC'S PROPOSED BIOMASS-FUELED GENERATION UNITS IN MAINE AND NEW HAMPSHIRE

September 3, 2004

1. Advisory Ruling Request by GenPower Inc.

GenPower, LLC has requested that the Massachusetts Division of Energy Resources (hereafter, DOER or the Division) provide an Advisory Ruling with regard to the qualification under the Massachusetts Renewable Energy Portfolio Standard (RPS) of two proposed, new, wood-fired, 40 MW Generation Units. One plant would be in Maine (ME), the other in New Hampshire (NH).[1] This document is DOER's response to that request.

The RPS regulations, at 225 CMR 14.06(5),[2] provide an opportunity for a Generation Unit owner or developer "to request an advisory ruling from the Division to determine whether a Generation Unit would qualify as a New Renewable Generation Unit."[3]

2. Description of the Proposed GenPower Projects

The request from GenPower concerns a proposal to construct two new biomass Generation Units, one in Maine and one in New Hampshire, fueled primarily by wood from forestry operations, possibly supplemented by wood pallets and sawmill residue. The description for the two plants is identical and is quoted here from the June 8th letter for New Hampshire:

> The planned facility would be located in New Hampshire and would burn wood fuel from forestry operations. Wood pallets and mill residue may supplement the forestry products.
>
> The facility would produce approximately 40MW of power on 24 X 7 basis. We anticipate burning about 400,000 tons of fuel per year.
>
> The plant's boiler will be equipped with emissions control equipment including a limestone injection system, selective non-catalytic reduction (SNCR) system, and a fabric filtration system. The boiler will utilize bubbling fluidized bed combustion technology from Energy Products of Idaho. This combination of technologies will achieve Best Available Control Technology (BACT) level emission rates.
>
> GenPower is currently the owner's engineer for Public Service of New Hampshire's Schiller Station repowering project. The proposed project will use advanced technology similar to the Schiller project and obtain similar emission rates.

This Advisory Ruling addresses the proposed projects' sites, fuels, technologies, and air emissions.

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[1] The GenPower request was made in two letters to Howard Bernstein at DOER, a June 8, 2004 letter for the New Hampshire plant and a July 1, 2004 letter for the Maine plant. All information about the two, virtually identical projects comes from those letters.

[2] Hereafter, all references to the RPS regulations will be to sections of 225 CMR 14.00.

[3] More information about Advisory Rulings for MA RPS is at http://www.mass.gov/doer/rps/advisory.htm.

3. Discussion of the Site for the Proposed Project in Maine

Although the plant in Maine would be identical all respects to the one in New Hampshire, as described above, one difference with regard to siting is noted in the 7/1/04 cover email to which the Maine request was attached: the plant in Maine would be constructed on a site where an older plant was in operation prior to 1998, all of whose machinery and structures would be removed prior to construction of the new plant. In a 7/2/04 email, GenPower noted that the old plant "was a biomass plant utilizing a stoker boiler." Since stoker-combustion biomass plants are not regarded in the RPS regulations as "renewable," DOER finds that the proposed site is not a "site of Vintage Generation" under the regulations at 14.05(1)(d)3. Therefore, the proposed new unit would not require a Vintage Waiver under the regulations at 14.05(2)((b). [4]

4. Discussion of the Projects' Proposed Biomass Fuels

Both units would burn wood from forestry operations, possibly supplemented by wood pallets and sawmill residue. These clearly fall within the definition of Eligible Biomass Fuel in the RPS regulations at 14.02.

5. Discussion of the Projects' Proposed Biomass Technology

The RPS regulations at 14.05(1)(a)6 provide that the qualification of biomass generation units is limited to "low emission, advanced biomass power conversion technologies using an Eligible Biomass Fuel." These criteria are designed to insure that the RPS provides incentives for older, dirtier technologies to be replaced by cleaner and more efficient technologies. DOER also believes that biomass technologies should improve over time in response to the incentives created by the RPS, in addition to other regulatory and market forces responsible for continued technological progress in the electricity generation sector generally.

For both plants, GenPower plans to use bubbling fluidized bed (FB) technology from Energy Products of Idaho, a firm that specializes in fluidized bed technologies applicable to a wide range of biomass fuels. In several previous Advisory Rulings – for PSNH's proposed re-tooling and repowering of one unit at its Schiller Station in New Hampshire, for EcoPower's proposed new unit in Massachusetts, for two other new biomass units proposed by GenPower, and for the retooling of biomass plants by Boralex, Burlington Electric, and Greenville Steam – DOER has discussed FB technology and determined that current FB technology represents an improvement over the early generation FB technology of the two 1986 Indeck boilers in Maine, and that the improved technology proposed for those projects meets the "advanced technology" criterion of the RPS regulations.[5] Consistent with those determinations and with the information provided by GenPower, DOER finds that the bubbling fluidized bed technology proposed for these two proposed GenPower plants also qualifies as "advanced."

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[4] See DOER's *Guideline on the MA RPS Eligibility of Generation Units That Re-tool with Low Emission, Advanced Biomass Technologies*, dated April 16, 2004 (especially the third bullet in section 2.3), and accessible via a link at http://www.mass.gov/doer/rps/advbio.htm. As the *Guideline* explains, a Vintage Generation Unit must meet all of the relevant requirements of 14.05(1)(a), which for a biomass unit categorically exclude the use of stoker combustion; therefore the old unit at the site in Maine is not a Vintage Generation Unit; therefore, per 14.05(1)(d)3, the site in Maine is not a site of Vintage Generation; therefore, the Vintage Waiver provisions at 14.05(2)(b) do not apply.

[5] The Advisory Rulings can be accessed via links at http://www.mass.gov/doer/rps/advisory.htm. The Indeck plants are already qualified for RPS under the Vintage Waiver provision at 14.05(2)

6. Discussion of the Projects' Air Emissions

A generation unit using an eligible biomass fuel and advanced technology must meet the criterion of "low emissions" in order to qualify a New Renewable Generation Unit for the RPS, per the regulations at 14.05(1)(a)6. This criterion does not set specific emission targets. Rather, the threshold for eligibility is expected to become more stringent as biomass energy conversion and emission control technologies improve. In addition, that threshold might differ among fuels, technologies, and project scale – as determined by the MA DEP. Under the RPS regulations at 14.05(1)(a)6.a, a generator must receive a valid air permit from its appropriate state air quality regulatory agency to qualify as an eligible biomass generator. The same subsection also provides that the project "must . . . demonstrate to the satisfaction of the Division that its emission rates are consistent with emission rates for comparable biomass units as prescribed by the Massachusetts Department of Environmental Protection."[6]

Rather than providing projected or expected or guaranteed emission rates, GenPower has described the planned emission control equipment, as quoted above in Section 2, concluding with the following statement in both its June 8th and July 1st letters: "The proposed project will use advanced technology similar to the Schiller project and obtain similar emission rates."

DOER stated on page 7 of its Advisory Ruling for Schiller Station that "DOER and DEP consider these proposed emission limits to be consistent with the "low emissions" criterion for RPS biomass generation units."[7] If GenPower's two proposed biomass plants also were to meet those emissions limits, then DOER would consider them, as well, to have met the RPS "low emissions" criterion.

DOER advises the company to maintain communication with the ME DEP, the NH DES, and the MA DEP, as well as to monitor Advisory Rulings and Statements of Qualification at DOER's RPS web page.[8] Also, the company should note that DOER is likely to include emissions monitoring and reporting requirements as conditions in the Statement of Qualification for the proposed plants in Maine and New Hampshire, as it does for other non-Massachusetts biomass plants.

7. Summary of Ruling

DOER has found GenPower's proposed projects, as currently described, to fall within the eligibility criteria for biomass-fueled New Renewable Generation Units provided in the RPS regulations at 14.05(1)(a)6. The following summarizes this finding, and it also notes several key issues and requirements for GenPower to consider in its project planning. In reviewing an eventual Statement of Qualification Application for either or both of the units, DOER will also consider these issues and requirements.

1. DOER finds that the site in Maine, from which an existing old biomass plant would be removed to make way for the proposed new plant, is not a site of Vintage Generation. Therefore, the Vintage Waiver provisions of the RPS regulations would not apply to the proposed new plant at that site.

2. DOER finds the proposed wood fuels from forestry operations, and possibly also from wood pallets and sawmills, to meet the definition of Eligible Biomass Fuels in the RPS regulations.

3. DOER finds that, pending details to be submitted with a Statement of Qualification Application, the proposed bubbling fluidized bed technology would qualify as advanced biomass power

[6] If the air quality regulations applicable in the jurisdiction where the unit is located do not require an air permit, then the unit must satisfy the requirements of the RPS regulations at 14.05(1)(a)6.c. This does not apply here.

[7] The Schiller Advisory Ruling is accessible via a link at http://www.mass.gov/doer/rps/comschil.htm.

[8] http://www.mass.gov/doer/rps/.

conversion technologies. This finding is consistent with the findings for the fluidized bed technologies in several other recent Advisory Rulings.

4. DOER considers the plants' proposed emission limits, if they prove to be, as stated, "similar" to those previously projected for the PSNH Schiller Station biomass project, to be consistent with the "low emissions" criterion for MA RPS biomass generation units. DOER advises GenPower to maintain communication with the ME DEP, the NH DES, and the MA DEP, and to monitor DOER Advisory Rulings and other MA RPS decisions, as well as MA DEP air permits, subsequent to this Advisory Ruling.

5. GenPower should note that, while DOER may grant a Statement of Qualification for a proposed Generation Unit, the RPS qualification of the plant always would be contingent on its owner/operator obtaining any required air permits and operating the plant in compliance both with those permits and with DOER's RPS regulations, including the conditions of the plant's Statement of Qualification. GenPower should expect emissions monitoring and reporting requirements to be included among the conditions for its proposed plants in Maine and New Hampshire.

6. Finally, GenPower should note that, once DOER grants a Statement of Qualification for a Generation Unit, further advances in "low-emission, biomass power conversion technologies" would have no effect on that unit's MA RPS qualification.